

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 100618-1 WO	<b>FOR FURTHER ACTION</b> See Form PCT/IPEA/416	
International application No. PCT/SE 2003/000158	International filing date (day/month/year) 29.01.2003	Priority date (day/month/year) 01.02.2002
International Patent Classification (IPC) or national classification and IPC A61M15/00, B65D5/08, B05D7/24, C08J7/18//A61J1/00, A61L29/08, A61L31/10		
Applicant AstraZeneca AB et al		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
  - a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:
    - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
    - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
  - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- |                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

Date of submission of the demand  12.08.2003	Date of completion of this report  05.05.2004
Name and mailing address of the IPEA/SE Patent- och registreringsverket Box 5055 S-102 42 STOCKHOLM Facsimile No. +46 8 667 72 88	Authorized officer  Monika Bohlin/Els Telephone No. +46 8 782 25 00

# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/SE 2003/000158

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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### 1. Statement

## Claims

1-7

**YES**

## Claims

8-9

NO

## Claims

## Claims

1-9

**YES**

NO

## Claims

1-9

**YES**

## Claims

NO

The claimed invention relates to the use of cold plasma coating for improving the performance of inhalation devices. The object is to reduce drug adhesion to the device components. This is achieved by coating these components with fluorinated acrylates using a cold plasma coating method.

Documents cited in the International Search Report:

D1 WO 9942154 A1

D2 WO 9858117 A1

D1 discloses an inhalation device having surfaces coated with a fluorinated hydrocarbon by a cold plasma coating process (see page 7 lines 5-26). This is a solution to the problem of drug adhering to the walls or components of the inhalation device.

D2 discloses a method of rendering surfaces hydrophobic and/or hydrophilic by coating with fluorinated acrylates using a plasma coating process. The method is particularly useful in the production of oil- and/or water repellent fabrics, but can also be used for biomedical devices (see page 10 lines 9-14). Example 3 and figure 4 show experiments using the monomer 1H,1H,2H,2H heptadecafluorodecyl acrylate.

The subject matter of current claims 8-9 is disclosed in D2. These claims therefore lack novelty.

D1 is considered to represent the closest prior art. The subject matter of current claims 1-7 differs from D1 in that different monomers are used in the coating process. D1 does not

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## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: Box V

disclose fluorinated acrylates. The problem to be solved in view of D1 is therefore to find other monomers that might reduce the drug adhesion even more, compared to D1. The person skilled in the art, who looks for a solution to this problem, finds guidance in the teachings of D2. It is thus considered obvious for the skilled person to evaluate the monomers used in D2 in terms of drug adhesion. Claims 1-7 are thus considered to lack inventive step.

The claimed invention is industrially applicable.